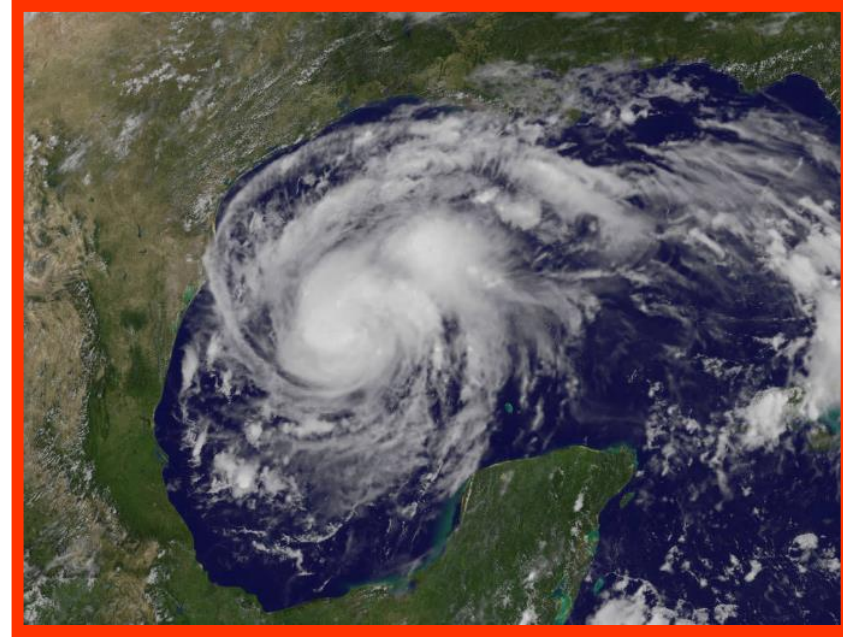


**From:** [Smith, Monica](#)  
**To:** [Mason, Steve](#)  
**Subject:** FW: Harvey Branch location Map  
**Date:** Monday, October 16, 2017 2:38:40 PM  
**Attachments:** [AWMA Harvey Presentation 10162017.pptx](#)  
[Harvey Branch Location Map.pdf](#)

---

---

**From:** Delgado, Eric  
**Sent:** Monday, October 16, 2017 2:33 PM  
**To:** Mason, Steve <mason.steve@epa.gov>  
**Cc:** Foster, Althea <Foster.Althea@epa.gov>; Smith, Monica <smith.monica@epa.gov>  
**Subject:** Harvey Branch location Map

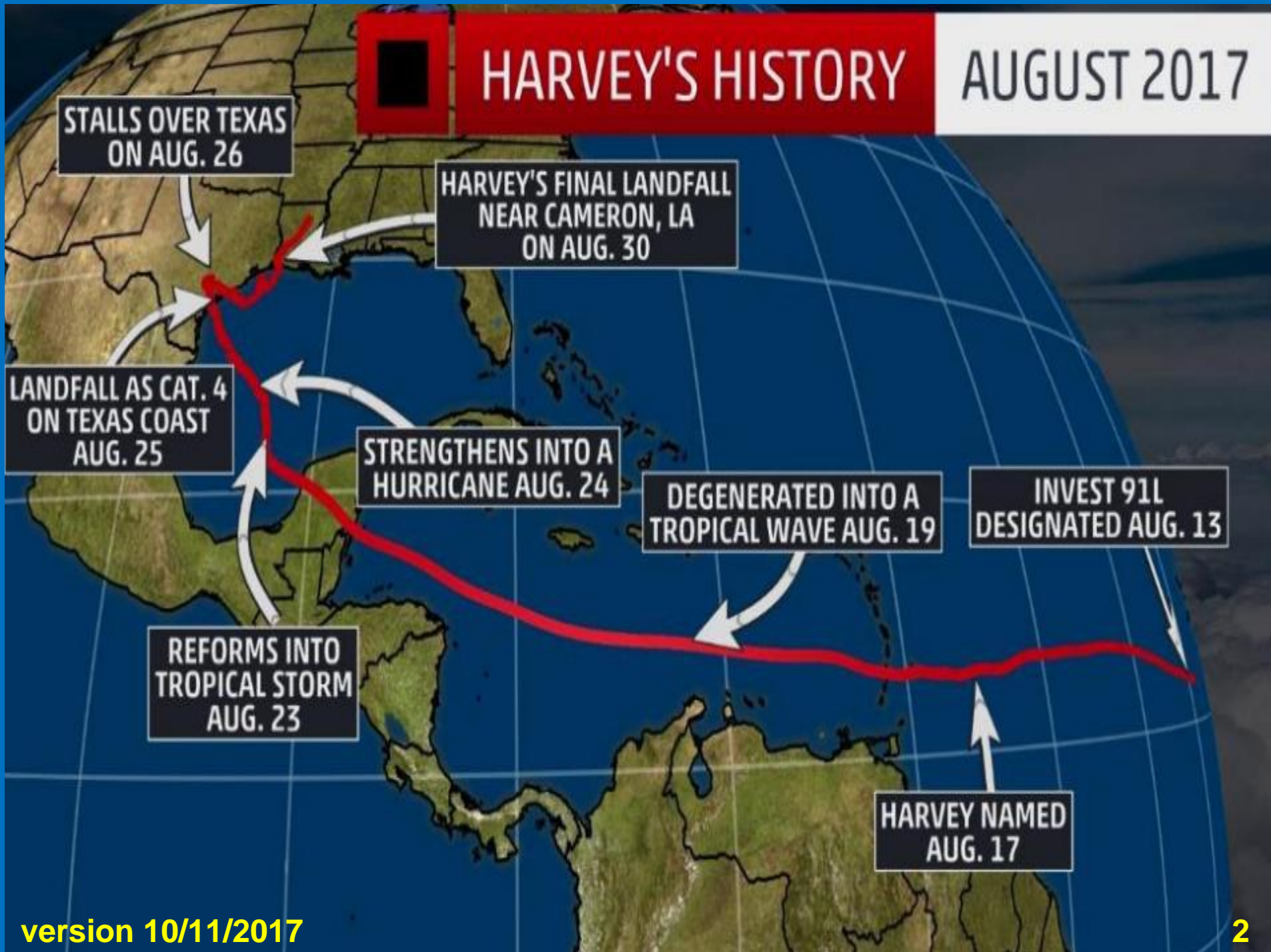


# EPA Response to Hurricane Harvey

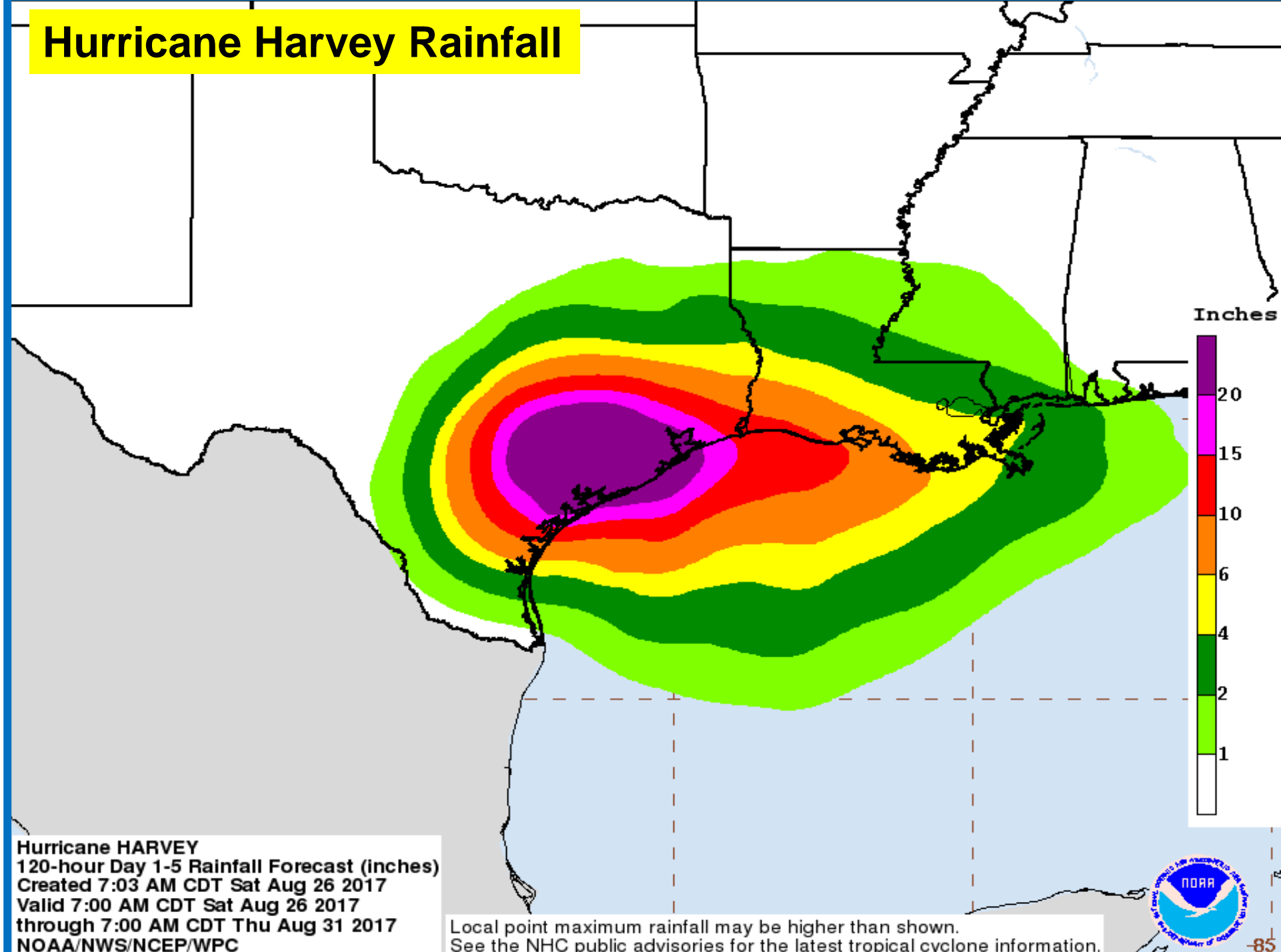
Carl Edlund  
Director, Superfund Division  
Region 6

# HARVEY'S HISTORY

AUGUST 2017



# Hurricane Harvey Rainfall





# UNIFIED COMMAND

---



# RESPONSE OBJECTIVES



- 
- Maximize protection of public, health, and safety.
  - Identify and evaluate affected drinking water and wastewater systems
  - Identify and address orphaned containers or discharges from vessels and/or facilities
  - Identify and address pollution targets.
  - Identify and assess Department of Homeland Security critical infrastructure; chemical; and, refining facilities
  - Establish and maintain a common operating picture.



# RESPONSE OBJECTIVES

---

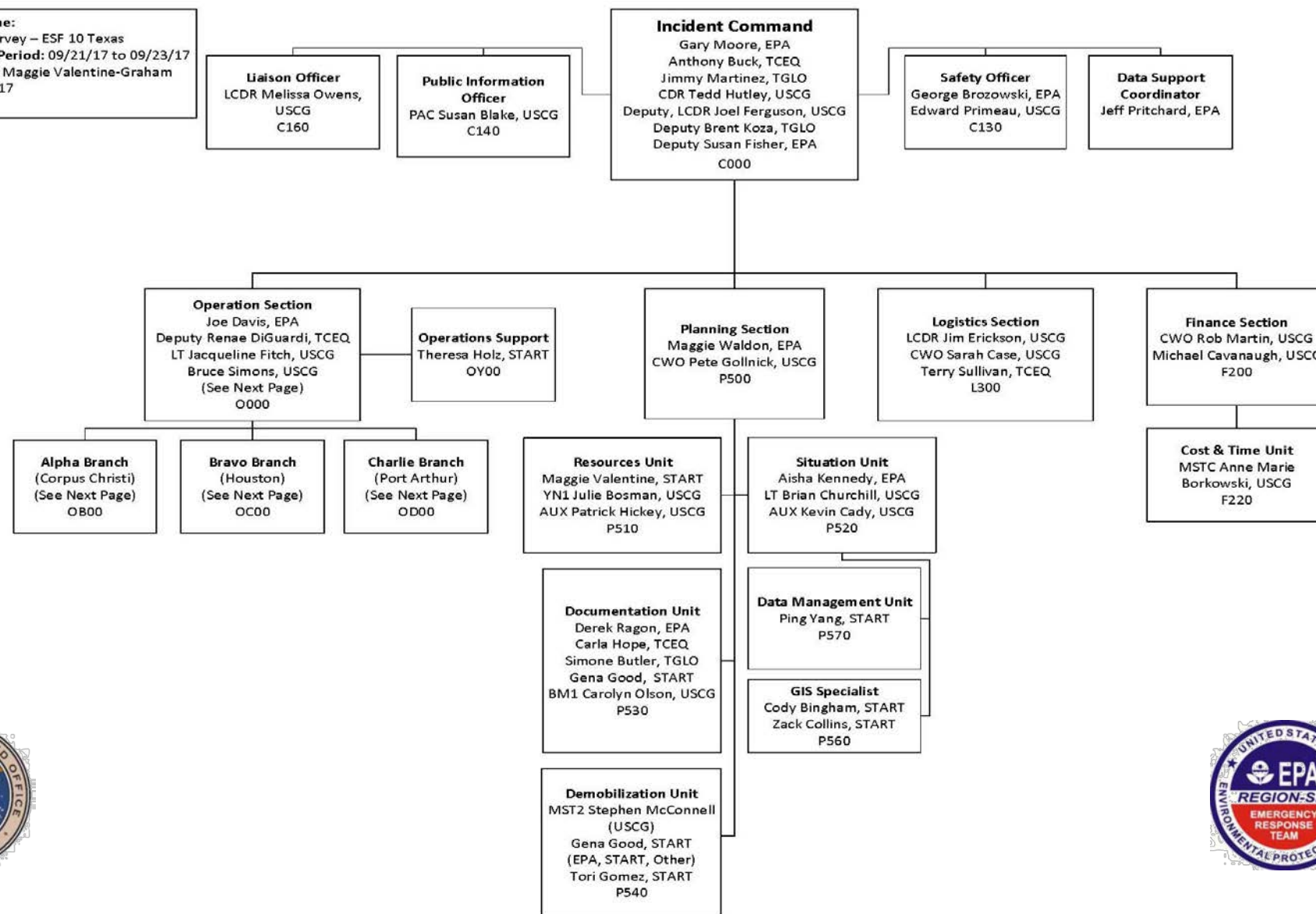
- Identify and maximize protection of environmentally sensitive areas and threatened species.
- Manage a coordinated interagency response effort through the Unified Command.
- Establish an Incident Management Team
- Inform the public, stakeholders, and the media of response activities.
- Adhere to appropriate financial accounting practices
- Deploy unique EPA assets to support the unified command response



# Unified Command Organization Chart



**Incident Name:**  
Hurricane Harvey – ESF 10 Texas  
**Operational Period:** 09/21/17 to 09/23/17  
**Prepared by:** Maggie Valentine-Graham  
**Date:** 09/20/17  
**Time:** 1800





# EPA Resources





## Unified Command Mobile Command Post





## Command & General Staff Meeting

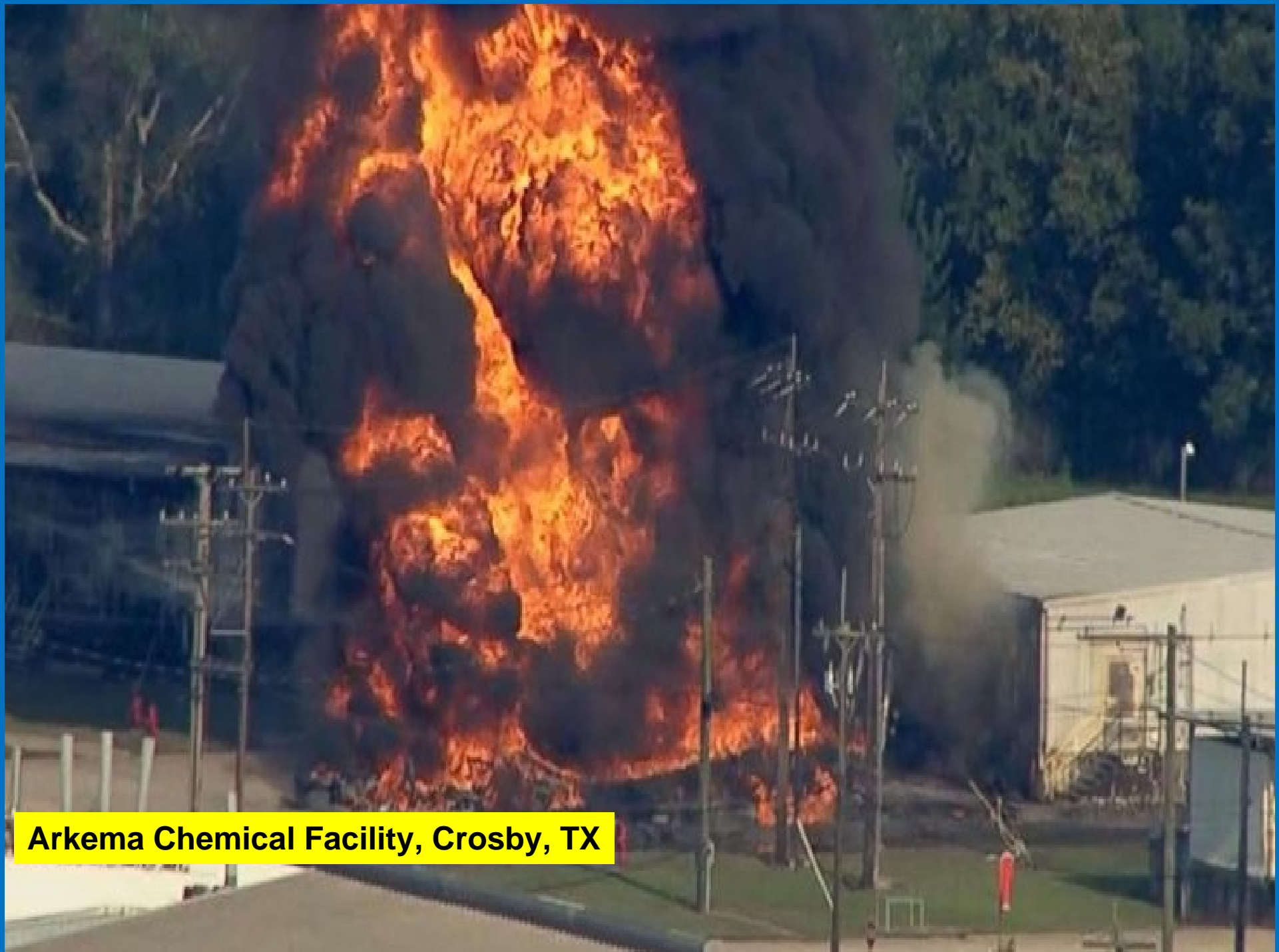




# ASPECT Activities

- DHS and DOE requested monitoring
- Pipelines
- Refineries
- Releases at chemical and oil facilities
- Releases and orphan containers



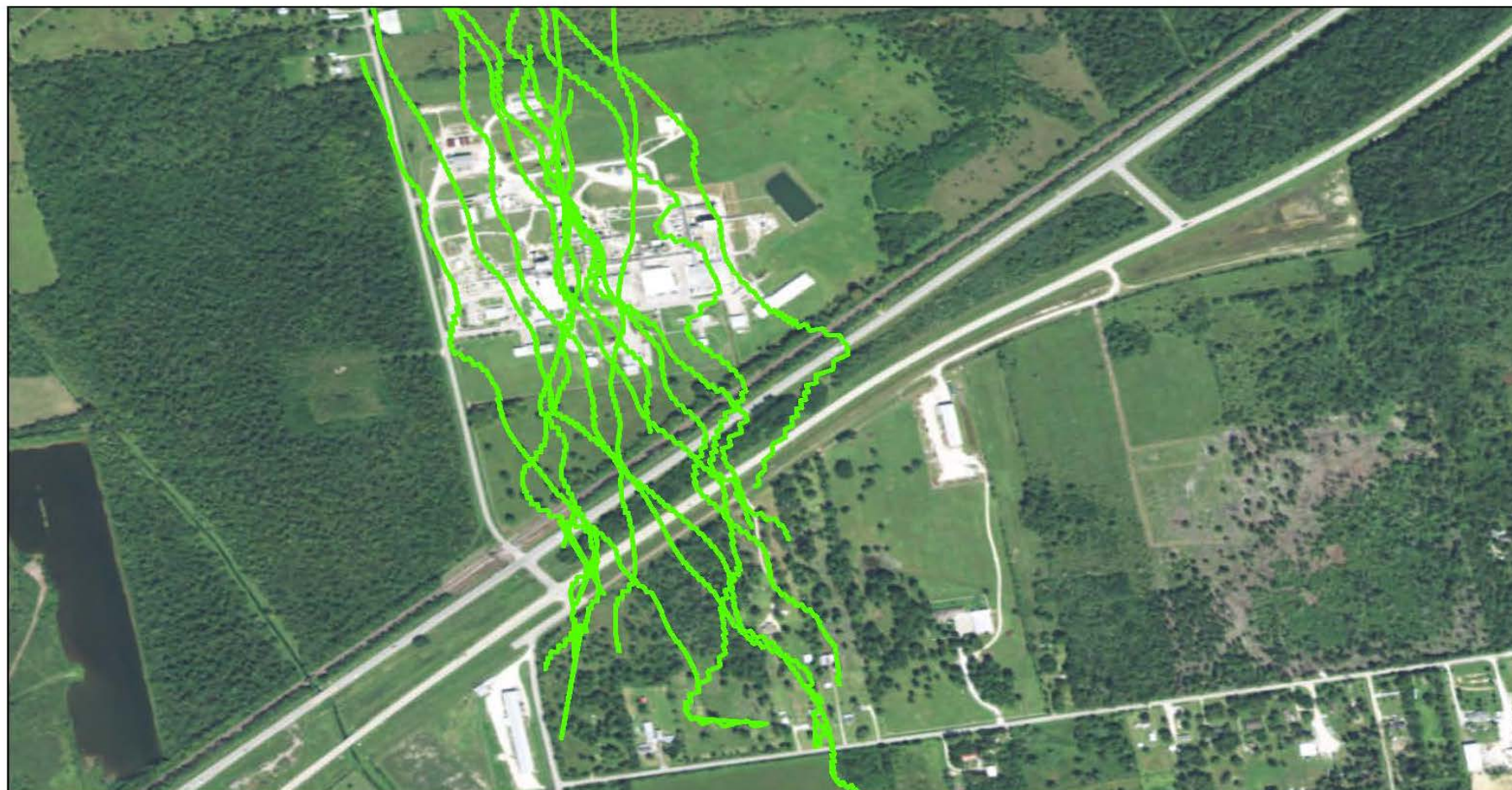


**Arkema Chemical Facility, Crosby, TX**





# ASPECT Flights



Chemical Compounds	Short-term AMCV (ppm)
1,1-dichloroethane	1.0
1-butene	27
acetone	11
dichlorodifluoromethane	10
ethyl acetate	4
ethylene	500
isobutane	33
methyl ethyl ketone	20
methylene chloride	3.4
n-butyl acetate	7.4
n-propyl acetate	2
propylene	Simple Asphyxiant
vinyl chloride	27

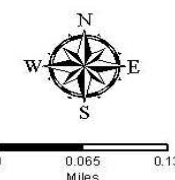
## Legend

— No Readings Above Benchmarks

### What's an AMCV?

AMCV is a collective term used to describe chemical-specific air concentrations used to evaluate air monitoring data that are set to protect human health and welfare. Short-term AMCVs are based on data concerning acute health effects. **AMCVs** may contain health-based Reference Values (ReVs) and health- and welfare-based ESL values. AMCVs are screening levels used in TCEQ's evaluation of ambient air monitoring data to assess the potential for measured concentrations of specific chemicals to cause health or welfare effects. Health-based AMCVs are safe levels at which exposure is unlikely to result in adverse health effects. ESLs are screening levels used in the TCEQ's air permitting process to establish maximum emission rates that are written into enforceable air permits. Health-based **ESLs** are set 70 percent lower than the safe level, or AMCV. This additional buffer allows TCEQ to take into account exposure to chemicals from multiple sources in air permit reviews.

## USA EPA REGION 6 Flight 13 ASPECT



For Official Use Only  
Printed via Web



EPA GIS  
Printed: 2:46:34 PM 9/6/2017

FILE: F:\Weston\_Harvey\Harvey\mod20170908\ASPECT\Flight13\_20170908.mxd 2:46:34 PM 9/6/2017 thumbaj



# TAGA Activities

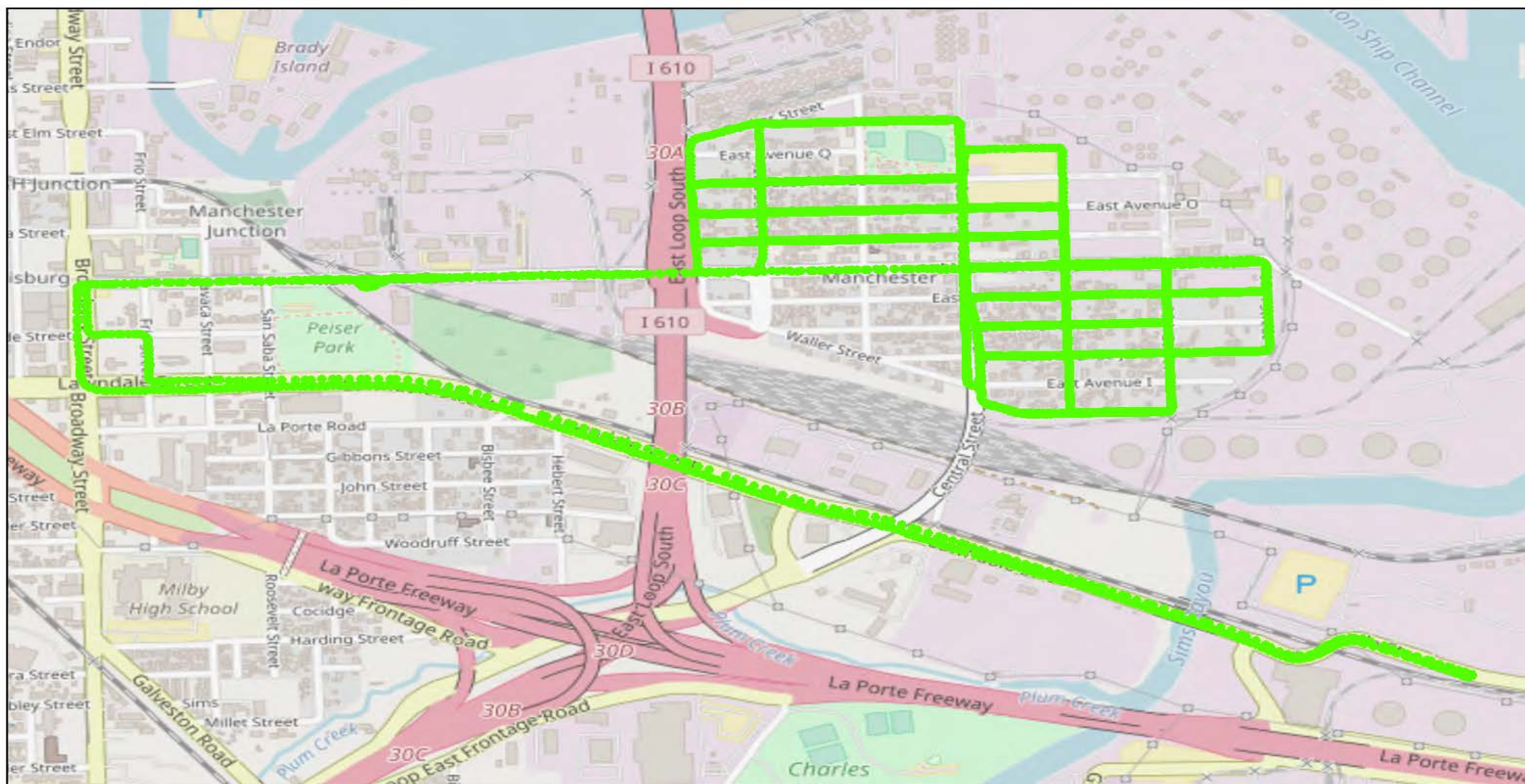


- Refinery monitoring
- Sensitive community monitoring
- Chemical manufacturing corridor monitoring





# TAGA Product



Substance	CAS #	Short-term AMCV Health (ppb)
1,1-dichloroethylene	75-35-4	180
benzene	71-43-2	180
m/p-xylene	179601-23-1	1700
o-xylene	95-47-6	1700
tetrachloroethylene	127-18-4	1000
toluene	108-88-3	4000
trichloroethylene	79-01-6	100

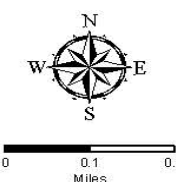
## Legend

- No Readings Above Benchmarks

### What's an AMCV?

AMCV is a collective term used to describe chemical-specific air concentrations used to evaluate air monitoring data that are set to protect human health and welfare. Short-term AMCVs are based on data concerning acute health effects. AMCVs may contain health-based Reference Values (RVs) and health- and welfare-based ESL values. AMCVs are screening levels used in TCEQ's evaluation of ambient air monitoring data to assess the potential for measured concentrations of specific chemicals to cause health or welfare effects. Health-based AMCVs are safe levels at which exposure is unlikely to result in adverse health effects. ESLs are screening levels used in the TCEQ's air permitting process to establish maximum emission rates that are written into enforceable air permits. Health-based ESLs are set 70 percent lower than the safe level, or AMCV. This additional buffer allows TCEQ to take into account exposure to chemicals from multiple sources in air permit reviews.

## USA EPA REGION 6 TAGA Runs on 20170905



For Official Use Only  
Printed via Web



EPA GIS  
Printed: 8/54:16 PM 9/7/2017

FILE: F:\Weston\_Harvey\TAGA\mxd\TAGA\_Res\ult\_analyze\20170905.mxd 8:54:16 PM 9/7/2017 thumb



# PHILIS Activities

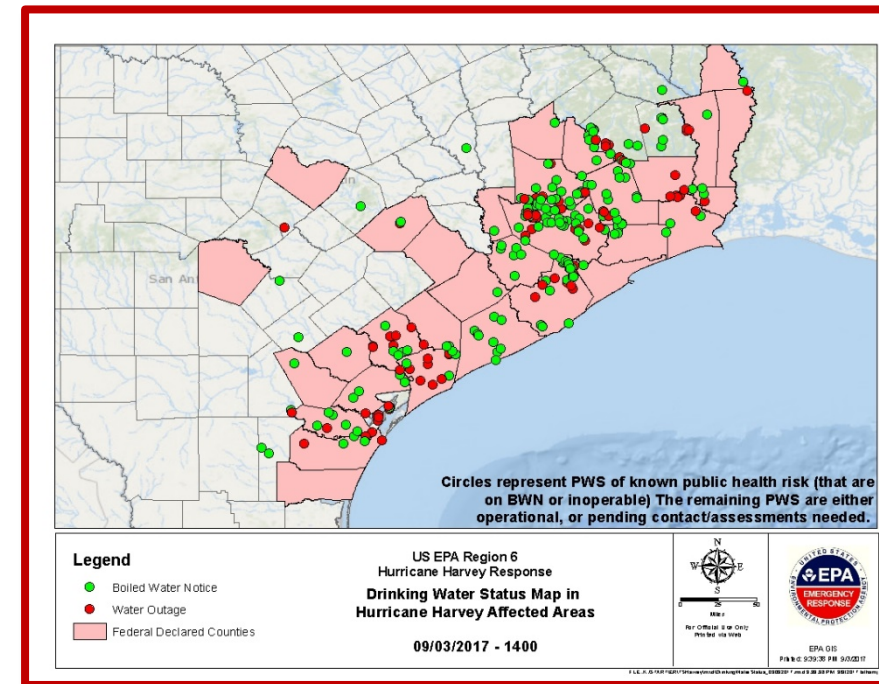
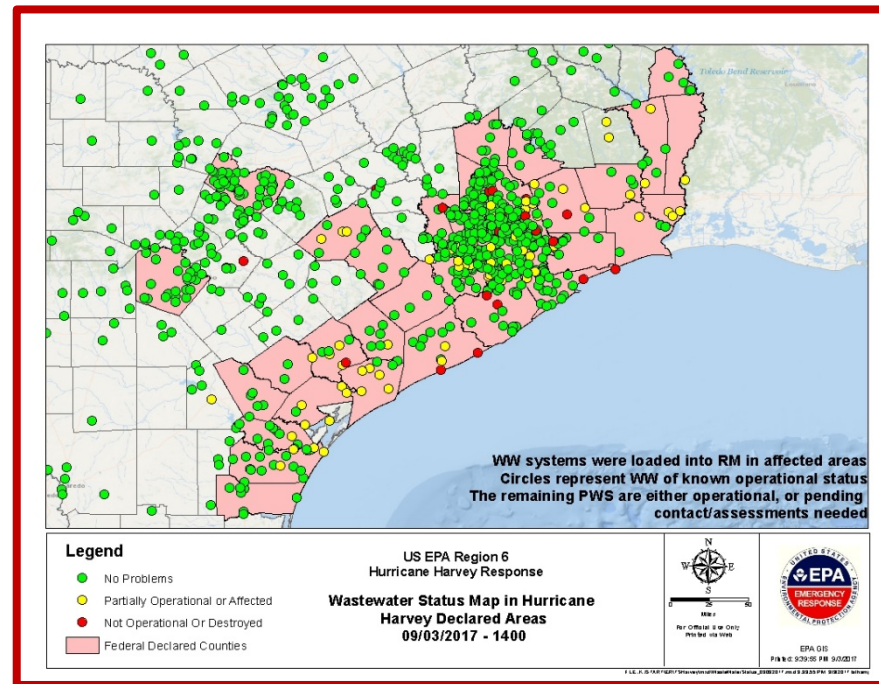
---

- On- Site Release assessment of analytical services
- Staging area sampling services
- Superfund site assessment analytical services





# Drinking Water / Waste Water Assessments



October 18, 2017



# Orphaned Container Recovery



# Superfund Sites





# Support to TCEQ / Staging Area Observers



# Community Liaisons





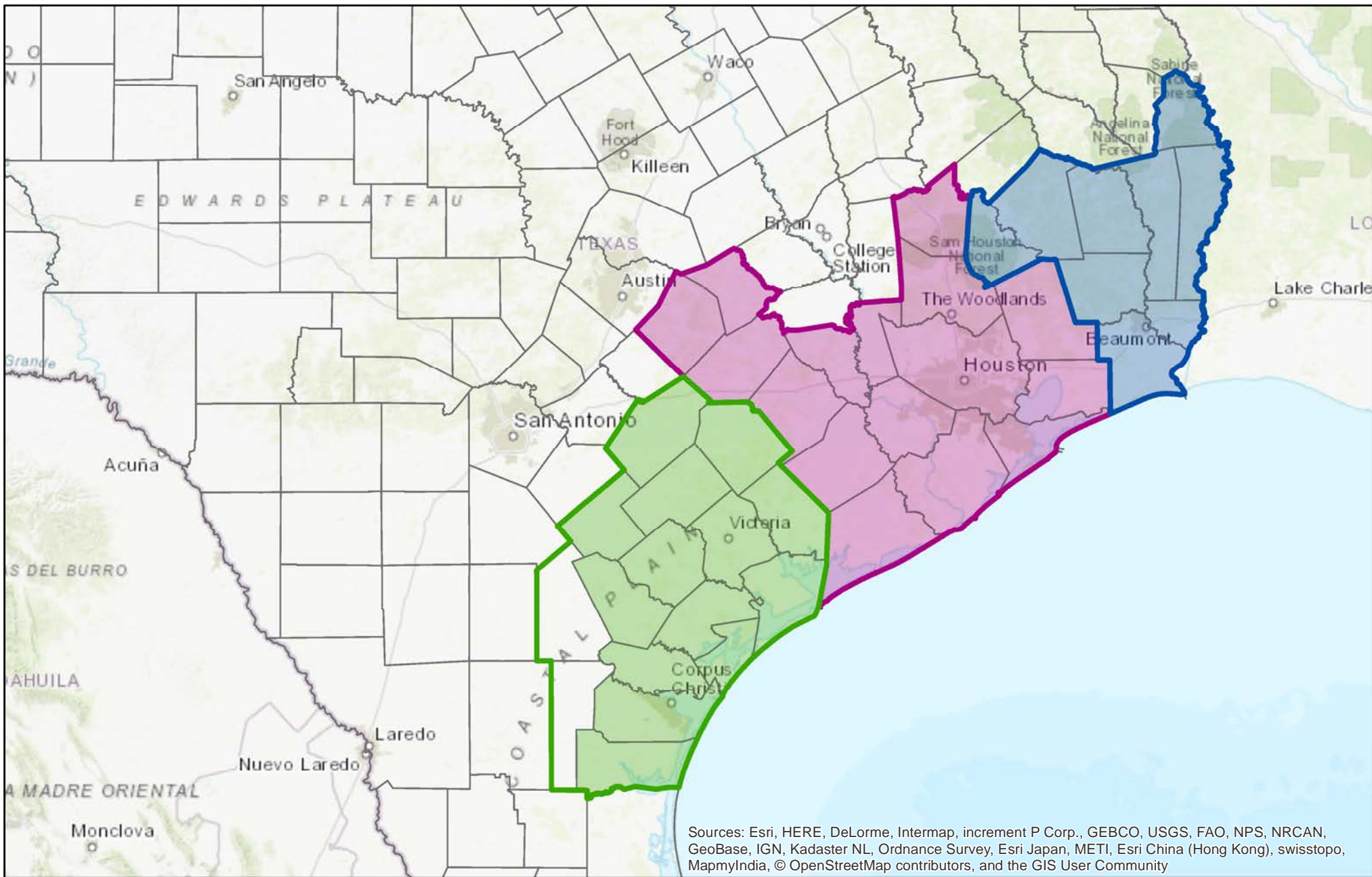


# Accomplishments

- 130 Hazard Evaluations completed and closed
- 267 spills/discharge investigation completed
- 990 orphan containers recovered
- 567 drinking water assessments completed
- 385 waste water assessments completed
- Daily aerial over-flights for air monitoring
- 7 fuel waivers signed, 7th waiver covers 38 states
- 4 No Action Assurance letters signed
- Ground support air monitoring
- 43 NPL site evaluations completed
- EPA fully integrated with TCEQ and TGLO in Unified Command







Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

## Legend

### Branch

- Alpha Branch
- Bravo Branch
- Charlie Branch

### Federally Declared Counties

- in Alpha
- in Bravo
- in Charlie

## US EPA Hurricane Harvey Branch Location Map Copyright 2017



0 30 60  
mi

For Official Use Only  
Printed via Web



EPA

Printed: 3:21:43 PM 10/16/2017